Dhona Ayu Fitria, 2019. **Parameters Estimation of Exponential Distribution on Censored Data Type I with Objective Bayesian Approach.** This research guided by Dr. Ardi Kurniawan, M.Si, dan Drs. Suliyanto, M. Si, Statistic Bachelor Study, Departement of Mathematic, Faculty of Science and Technology, Airlangga University, Surabaya

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**ABSTRACT**

Bayesian estimates are based on prior selection and loss functions. In objective Bayesian estimation, prior Jeffrey’s is chosen and using intrinsic discrepancy loss function based on the Kullback-Leibler divergence equation which will have a minimum effect of data on the posterior distribution. Objective Bayesian estimators will provide estimates of population parameters that only depends on the assumption of population distribution and data. This study explains how to obtain parameter estimates from Exponential distribution on type I censored data with Objective Bayesian methods. The application of the estimation results in simulation data shows that the MSE value will be smaller for the larger data, the greater the number of failures that occur, MSE value is getting smaller so that the estimated value of \( \theta \) is getting better. Then by doing a simulations that repeated 100 times, it can be seen that for larger data sizes, the range of estimation results tends to shrink. The results of parameter estimation on data patients with chronic renal failure using the Bayesian Objective Method obtained patients with an initial cause of diabetic disease estimated results \( \hat{\theta} = 97,333 \) and estimated results for non-diabetic \( \hat{\theta} = 140,367 \). And the application of survival analysis shows that the probability of survival for patients with chronic renal failure with the initial cause of diabetic disease are smaller than the probability of survival for patients with chronic renal failure with the initial cause of non-diabetic disease.

*Keywords : Censored Data Type I, Exponential Distribution, Objective Bayesian Method*